



A STUDY ON PREMIUM COLLECTION AND TOTAL INVESTMENT OF PUBLIC HEALTH INSURANCE COMPANIES IN INDIA

Dr. Shib Pada Patra

Assistant Professor, Department of Commerce, Chittaranjan College, Affiliated to University of Calcutta, Kolkata, West Bengal, India.

ABSTRACT

Premium collection is the very important part of the health insurance business; it helps to grow the health insurance business in health insurance market to capture the potential market in India. The public health insurance companies are the business leaders in health insurance business. Premium collection and its investment in different sector accelerate the growth of Indian economy. In this paper, premium collection and its total investment are analyzed using Pearson Correlation Coefficient and Log-Linear Model. During the study period, this paper reveals that the premium collection and its CAGR of the New India Assurance Co. Ltd. and United India Insurance Co. Ltd. are more than the premium collection and CAGR of Oriental Insurance Co. Ltd. and National Insurance Co. Ltd. for their effective marketing strategy in Indian health insurance market.

KEYWORDS: Premium collection; Total Investment; Pearson Correlation Coefficient; Log-Linear Model.

I. INTRODUCTION:

Premium collection of health insurance companies is the life blood to run the health insurance business smoothly and investment of this premium collection in different sector in Indian financial market helps to run the health insurance business for long period. More investment in financial market is the better growth of the business subject to meet the required expenses. In health insurance business, an association exists between premium collection and total investment of the public health insurance companies. In this regard, a correlation between premium collection and total investment of four public health insurance companies and trend of premium collection and total investment among them are measured in this study using Pearson Correlation Coefficient and Log-Linear Model.

II. PAST STUDIES:

J. Barnes, & Y. Hanoch. (2017). discussed in their article 'Knowledge and Understanding of Health Insurance: Challenges and Remedies' that poor health insurance literacy created the problem to choose proper health insurance policy to cover the expected health care needs. N. Shet, G. J. Quadiri, S. B. Kalal, & S. Saldanha. (2018). discussed in their study 'Impact of Out-of-Pocket Health Care Financing and Health Insurance Utilization among the Population: A Systematic Review', households were unable to recuperate the expenses from their resources and they slipped into poverty to meet the health expenditure. D. Mavalankar. & R. Bhat. (2000). in their article 'Health Insurance in India Opportunities, Challenges and Concerns' focused on existing health insurance needs to be developed and social health insurance pattern is to be modified. D. Card, C. Dobkin, & N. Maestas. (2005). in 'The Impact of Health Insurance Status on Treatment Intensity and Health Outcome' showed that casual effect had between treatment intensity and insurance coverage. Binny & M. Gupta. (2017). in their paper 'Health Insurance in India-Opportunities and Challenges', analyzed the opportunity of health insurance trend of health insurance and challenges in health insurance. R. Ahuja. (2004). in the journal, 'Indian Council for Research on International Economic Relations', cited health insurance for the poor in India, community health insurance, universal health insurance scheme, insurance reforms and health insurance prospects for the poor. B. Resmi, N. S. Nair, K. M. Sabu & B. Unnikrishnan. (2007). studied community based cross sectional study in Mangalore city, India in the journal article 'Awareness of Health Insurance in a South Indian population-A Community Based Study'. S. Malhotra, I. Patnaik, S. Roy, & A. Shah. (2018). in their article, 'Fair Play in Indian Health Insurance' has discussed the fair play in Indian health insurance companies for their public service. A. Anita. (2008). in her article 'Emerging Health Insurance in India- an Overview' pointed the health insurance scenario in India, health insurance products in India, role of IRDA, different health insurance plans and privatization of health insurance. D. Bhavesh, D. Ravi, A. Gaurang, D. Kanan T, & B. RK. (2015). mentioned in their study 'Health Insurance: Effects and awareness', the awareness on health insurance, availability and nature of health insurance coverage, problem faced while getting claims in general public.

III. RESEARCH METHODOLOGY:

Nature of Research	• Exploratory in nature
Nature of Data	• Secondary in nature
Source of Data	• Books • Journal Articles • Websites • IRDA Annual Reports
Four public health insurance companies {National Insurance Co. Ltd. (NI), New India Assurance Co. Ltd. (NIA), Oriental Insurance Co. Ltd. (OI) and United India Insurance Co. Ltd. (UII)}	• Premium Collection • Total Investment
Period of the Study	• 2013-2014 to 2017-2018
Objectives	Statistical Tools
To find the trend of. premium collection and total investment and measure Correlation between premium collection and total investment	• Log-Linear Model • Pearson Correlation Coefficient

Objectives of the Study:

This study is made with following objectives:

- To find the trend of. premium collection and total investment;
- To measure Correlation between premium collection and total investment.

III. ANALYSIS AND DISCUSSION:

Analyzing a Trend of Premium Collection using Log-Linear Model:

In this section, total premium collection as the Dependent Variable (DV) and time represented by year as the Independent Variable (IV) are used to find the Compound Annual Growth Rate (CAGR) and trend values. These are shown in Table-I and Table-II:

Table-I: Premium Collection (Rs in Crore)

Year	NI	NIA	OI	UII
2013-2014	10260.96	13727.6	7282.53	9708.93
2014-2015	11282.62	15480.35	7561.92	10691.73
2015-2016	12018.98	17763.31	8611.59	12250.36
2016-2017	14282.36	21597.92	11117.02	16062.81
2017-2018	16243.68	25159.31	11736.84	17429.95
Log a	9.098	9.351	8.712	8.991
Log b	0.115	0.154	0.134	0.158
a	8937.40	11510.33	6075.38	8030.48
b	1.1219	1.1664	1.1434	1.1711
CAGR (%)	12.19	16.64	14.34	17.11

[Source: Compilation based on IRDA Annual Reports using MS Excel 2007 &

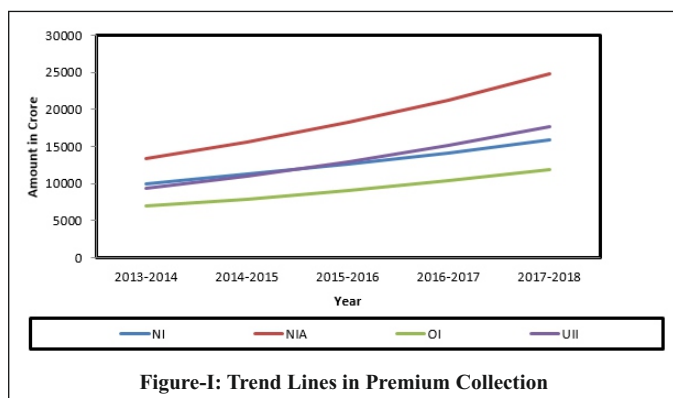
SPSS 20.0]

Table-II: Trend Values in Premium Collection (Rs in Crore)

Year	NI	NIA	OI	UII
2013-2014	10026.87	13425.65	6946.589	9404.495
2014-2015	11249.14	15659.68	7942.73	11013.6
2015-2016	12620.42	18265.45	9081.718	12898.03
2016-2017	14158.84	21304.82	10384.04	15104.89
2017-2018	15884.81	24849.94	11873.11	17689.33

[Source: Compilation Based on Table-I using MS Excel, 2007]

The estimated trend lines of total premium collection are presented in Figure-I:

**Figure-I: Trend Lines in Premium Collection**

[Source: Compilation Based on Table-II using MS Excel, 2007]

Findings:

The rising trend of premium collection and its CAGR of the NIA and UII are more as compared to NI and OI for their effective marketing strategy for collection of premium collection in Indian health insurance market.

Analyzing a Trend of Total Investment using Log-Linear Model:

In this division, in the same way as used previously, total Investment of four public health insurance companies is analyzed to find the Compound Annual Growth Rate (CAGR) and trend values. These are discussed in Table-III and Table-IV:

Table-III: Total Investment (Rs in Crore)

Year	Total Investment of NI	Total Investment of NIA	Total Investment of OI	Total Investment of UII
2013-2014	14986.08	21011.2	11517.23	17579.12
2014-2015	16482.36	23013.11	12473.52	19097.58
2015-2016	17142.47	26180.05	12214.27	19665.3
2016-2017	19297.02	29322.77	13658.68	22051.98
2017-2018	21589.73	34971.6	15168.64	26880.31
Log a	9.518	9.805	9.276	9.646
Log b	0.089	0.126	0.064	0.099
a	13602.38	18124.14	10678.63	15459.82
b	1.0931	1.1343	1.0661	1.1041
CAGR (%)	9.31	13.43	6.61	10.41

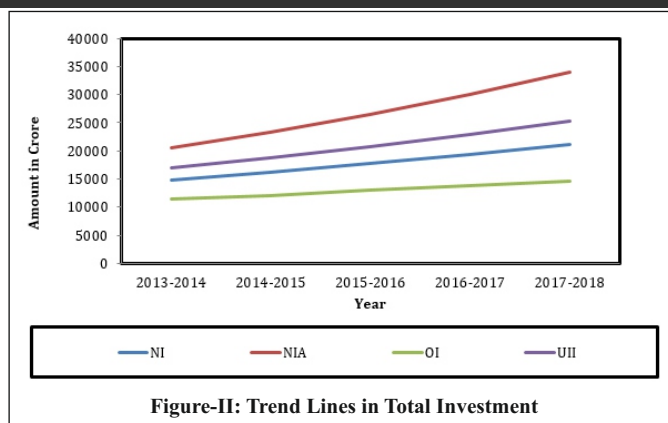
[Source: Compilation Based on IRDA Annual Reports using MS Excel 2007 & SPSS 20.0]

Table-IV: Trend Values in Total Investment (Rs in Crore)

Year	NI	NIA	OI	UII
2013-2014	14868.76	20558.21	11384.49	17069.19
2014-2015	16253.04	23319.18	12137.00	18846.09
2015-2016	17766.20	26450.95	12939.26	20807.97
2016-2017	19420.23	30003.31	13794.54	22974.08
2017-2018	21228.26	34032.75	14706.36	25365.68

[Source: Compilation Based on Table-III using MS Excel, 2007]

The estimated trend lines of total investment are presented in Figure-II:



[Source: Compilation Based on Table-IV using MS Excel, 2007]

Findings:

Increasing trend of total investment and its CAGR of the NIA and UII are more than the total investment and the CAGR of NI and OI for their more premium collection in Indian health insurance market.

Pearson Correlation Coefficient:

Here, Pearson Correlation Coefficient is measured between premium collection and total investment in the Table-V:

Table-V: Correlation Coefficient

Public Health Insurance Company	Correlation
NI	00.998
NIA	00.994
OI	00.930
UII	00.936

[Source: Compilation using SPSS 20.0]

Findings:

Table-V shows that Correlation Coefficient of NI is more than Correlation Coefficient of other three public health insurance companies. It is possible for controlling of different type of expenses in health insurance business.

III. CONCLUSION:

The CAGR of the premium collection as well as total investment of the NIA and UII are more for their effective marketing strategy in Indian health insurance market. During the study period, controlling the expenditure to run the business, National Insurance Company Ltd. is investing more premiums out of total premium collection in different sectors in Indian financial market and Oriental Insurance Company Ltd. is investing lesser premium in different sectors in Indian financial market for comparatively more expenses to run the business.

REFERENCES:**Journal Articles:**

- Shet, N., Quadiri, G. J., Kalal, S. B. & Saldanha, S. (2018). Impact of Out-of-Pocket Health Care Financing and Health Insurance Utilization among the Population: A Systematic Review. International Journal of Health Insurance and research, 1-9
- Barnes, A. J. & Hanoch, Y. (2017). Knowledge and Understanding of Health Insurance: Challenges and Remedies. Barnes and Hanoch Israel Journal of Health Policy Research, 1-3
- Binny & Gupta, M. (2017). Health Insurance in India-Opportunities and Challenges. International Journal of Latest Technology in Engineering, Management & Applied Science. 1-8
- Card, D., Dobkin, C. & Maestas, N. (2005). The Impact of Health Insurance Status on Treatment Intensity and Health Outcome. Rand Labour and Population, 1-48
- Ahuja, R. (2004). Health Insurance for the Poor in India. Indian Council for Research on International Economic Relations, 1-28
- Bhaves, D., Ravi, D., Gaurang, A., Kanan, T. D. & RK, B. (2015). Health Insurance: Effects and awareness. Journal of the College of Community Physician of Sri Lanka, 1-4
- Mavalankar, D. & Bhat, R. (2000). 'Health Insurance in India Opportunities, Challenges and Concerns. Indian Institute of Management. 1-16
- Resmi, B., Nair, N. S., Sabu, K. M. & Unnikrishnan, B. (2007). Awareness of Health Insurance in a South Indian population-A Community Based Study, Prospective Issues, 1-12.
- Malhotra, S., Patnaik, I. Roy, S. & Shah, A. (2018). A Fair Play in Indian Health Insurance, NIPFP Working Papers Series, 1-47.

Databases:

- IRDA, Annual Reports, 2013-2014 to 2017-2018